

### **Rheumatic Heart Disease**

"Only 30 years ago rheumatic fever was a common topic in the Journal. 55 articles between '67-'76. Just 8 entries since. However the decrease in publications reflects only the waning burden of disease among the less than 20% of high income world population. For everyone else rheumatic fever and RHD are bigger problems than ever.." -NEJM Carapetis, 2007

#### Epidemiology

- 15.6 million worldwide current cases, 470000 per year
- 3 million with clinical CHF, many of whom meet surgical criteria
- 233000 deaths attributable per year
- Highest rates in sub-Saharan Africa

#### Pathogenesis

1. Group A Strep Infection (Pharyngitis, skin infection)
2. Rheumatic fever (Delayed autoimmune response)
3. Rheumatic Heart Disease (Carditis component mediated chronic valvular disease)
4. CHF (Resulting from severe valvular disease)

#### Diagnosis

- WHO criteria → based on the revised Jones Criteria
- [http://whqlibdoc.who.int/trs/WHO\\_TRS\\_923.pdf](http://whqlibdoc.who.int/trs/WHO_TRS_923.pdf)

#### Echocardiography

- Traditional clinical diagnosis of rheumatic carditis depended on auscultation of murmur and subsequent sono verified valvular disease (mitral/aortic)
  - Sono dx: mitral or aortic regurg with 2/3 of the following: restricted leaflet mobility, focal valve thickening, abnormal subvalve thickening
- POC ultrasound now with ability for subclinical rheumatic carditis dx
- NEJM 2011 suggesting 10x's as many RHD cases can be detected in school age children, which may provide better ability to prophylax

#### Management

- Acute Rheumatic fever
  - Abx for eradication (primary prevention)
  - Abx for prophylaxis (secondary prevention)
    - Intramuscular pen q3-4 weeks lifelong if severe, until age 25 if mild
  - Aspirin / steroids
- Acute carditis associated heart failure
  - steroids, diuretics, ACE I, Digoxin
- Heart Failure
  - Medical Management with mild disease, or inability to surgically treat
  - Surgical management